

NOTES TO ARCHITECT

SECTION 09512 - ACOUSTICAL TILES

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00800.

1.02 COORDINATION WITH OTHER SECTIONS

Coordinate layout of wood furring strips which are specified to be furnished and installed under ROUGH CARPENTRY.

1.03 SUBMITTALS

Samples of the tile and any appurtenances together with 6 sets of the manufacturer's specifications of the tile and of the fastener system shall be submitted to the Engineer for his approval. Tile shall not be ordered or installed without this approval.

The use of this specification must be tailored to your job. This specification covers prefabricated nailed-on or stapled-on acoustical tiles only, not suspended systems. Where suspended system is used, modify specifications accordingly.

Be sure to require the coordination of acoustical tile layout with this section in the ROUGH CARPENTRY Section.

Describe and show wood furring in carpentry section and drawings. Strips shall be 1" x 3" softwood (treated) 12" o.c., securely fastened to the concrete surfaces. Fasteners and spacing shall be noted. Layout need not be in a grid, but shall have cross-strip fire blocking not over 8' o.c. Do not overlook perimeter detail. If wood trim is used at the edge, this also is in the CARPENTRY Section. In addition, add a direction that furring surface shall not deviate more than 1/8" in 12" from a plane.

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PART 2 - PRODUCTS

2.01 MATERIALS

- A. Asbestos Prohibition: No asbestos containing materials shall be used under this section. The Contractor shall insure that all materials incorporated in the project are asbestos-free unless specifically approved in writing by the Engineer.
- B. Tiles shall conform to the following:
1. Patterns: a, b, c, d, e, or f.
 2. Class: (Fill in number).
 3. Light Reflectance Coefficient: 0.75 or greater.
 4. Grade: Minimum NRC range = 0.55 - 0.65 (See plans for area of application.)
 5. Size: 12 in. x 12 in. or 12 in. x 24 in. with thickness as required to meet NRC value.
 6. Edges: Beveled or square.
 7. Jointing: Butted or T & G, depending on manufacturer's recommendations for mounting.
 8. Finish: White factory finish.

Specify 25 or 75 as required to meet code requirements. Check U.B.C. Chapter 42.

The use of different NRC (Noise Reduction Coefficient) grade shall be governed as follows:

- A. Grades for music rooms and cafeteriums shall be designed by the Acoustic Consultant.
- B. For classrooms, see the various NRC ranges shown on the Attachment. Draw the reflected ceiling plan on the drawings to indicate the amount of tile to be installed for the various NRC ranges.
- C. For high humidity locations, specify the proper type which is resistant to high humidity. Also, check the NRC range for this particular tile.

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- C. Edge Molding shall be integrally colored white plastic manufactured specifically for acoustical tile edge or wood molding, whichever is detailed on the plans.
- D. Fasteners shall be rust-resistant and of the type recommended by the manufacturer for the mounting used except as follows: staples for T & G type tiles shall have minimum shoulder width of 1/2" and leg length sufficient to penetrate at least 1/4" into furring strips.

Detail and call out edge molding on drawings; coordinate with specs.

PART 3 - EXECUTION

3.01 PREPARATION

Surfaces to receive acoustical units shall be dry, level, and free from irregularities. The Acoustical Contractor shall be responsible for the examination and acceptance of all surfaces and conditions affecting the installation of his work. Start of this work shall constitute acceptance of all work conditions. Unsatisfactory conditions shall be reported to the Engineer so that corrective measures can be taken.

3.02 INSTALLATION

- A. General: Shall conform to the manufacturer's directions for the tile used and to the layout shown on the plans for the grade of tile to be installed. All doors and windows shall be in place before installation of tiles.
- B. Mounting: Nailed or stapled direct to wood stripping as follows:
 - 1. 12 in. x 12 in. butt-jointed tile shall be attached with 3 fasteners along sides bearing on furring strips (6 total per piece). 12 in. x 24 in. pieces shall have fasteners at corners and approximately 6 inches o.c. along furring strips (10 total per piece).
 - 2. T & G tile shall be attached at both ends of transverse tongue and at approximately 6 inches o.c. along tongue bearing on furring strips.
 - 3. Fasteners shot into face of butt-jointed tile shall penetrate no more than 1/4 its

Include reflected ceiling plans to cover all conditions as well as typical mounting details and/or details where tile abuts a vertical surface. Refer to "Recommended Acoustical Treatment" dated May, 2, 1975, by Prof. Iwao Miyake, hereinafter attached.

Acoustical tiles must be fastened to 1 x 3 wood furring strips, not directly to wood decking.

thickness. Those installed on T & G tile shall bear firmly against but not penetrate surface of flanges.

- C. Finish Work: Where used, plastic edge molding shall be positively secured to tile edges by stapling, gluing, etc.

3.03 CLEANING AND REJECTION

The Contractor shall exercise all necessary precautions to avoid damaging or soiling the units. All damaged units shall be replaced with new units by the Contractor.

- A. Crooked or open joints.
- B. Soiled tiles not cleaned to original condition.
- C. Fractures, cracks or corner chips.
- D. Color variation.
- E. Loose or fallen tiles.
- F. Warped tiles.

END OF SECTION

NOTES TO ARCHITECT

RECOMMENDED ACOUSTICAL TREATMENT
FOR
TYPICAL STANDARD CLASSROOMS
ACOUSTICAL CONSULTANT: PROF. IWA0 MIYAKE
MAY 2, 1975

SCHEMATIC REFLECTED CEILING PLAN
Scale: 1/8" = 1'-0"

NOTE: 12" x 12" tile shown
schematically only. For
dimensions A, B, C and D, see
table below for various grades of
tile which may be used at
Contractor's option.

NRC Range	Dim. A	Dim. B	Dim. C	Dim. D
.65-.75	5'	7'	6'	7'
.60-.70	6'	8'	6'	7'
.55-.65	7'	10'	7'	7'

1. For a standard classroom of 30' x 32' total tile area shall not be less than 540 s.f. for NRC range = .55-.65.
2. Layout may be modified where exposed beams are used, with tile applied to surfaces between beams, generally following perimeter pattern shown. Where possible, do not cut tiles.
3. Center portion shall not be treated so as to act as reflective surface to carry voices.
4. Tile area shall be increased proportionately for larger size rooms.
5. Tile shall be mechanically mounted directly to wood furring strips at 12" o.c. "shot-pinned" to concrete surfaces, where concrete occurs. Do not use adhesive, because tile falls off in time.
6. Acoustic plaster shall not be used for the following reasons:
 - a. Difficulty of sustaining a high standard consistency.
 - c. Too easily damaged.
 - d. Requires special painting.
 - e. Some contain asbestos fibers.
7. Tile contractor shall be given the option to provide tile of different NRC ranges. Therefore, drawn to show this option.

NOTES TO ARCHITECT

Acoustical Tile
09512 - Attachment
Revised: 3/80